

Student Sheet 1



LAB ACTIVITY: A BALANCED TANGLE

Drawing/description of solution:

A large, empty rectangular box with a black border, intended for the student to draw or describe their solution to the lab activity.

Student Sheet 2

ANALYSIS:

1. Based on what you know, why is the nail system a "system?"
2. Choose three parts of the nail system and describe their functions.
3. Now, choose one part of the nail system and describe how it affects other parts of the system.
4. Describe how the bicycle system and the nail system are similar.
5. How did you get the system of nails to balance?
6. What members (nails) of this system depend on other members?
7. How many nails can you remove before the system becomes unbalanced and fails?
8. How could additional nails be added to the system?
9. What part of a system do the nails represent?
10. How can systems become unbalanced?
11. How many of these nails can you balance on the head of one nail?
12. What's the best way to balance one nail?
13. How can you get the other nails to balance on this one? (You can take it off and lay it flat on the table at this point.)
14. What can you use to hold down the nails lying across the first nail so that they don't fall off when you lift them back on the nail head?
15. How does this trick work?